# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/931,794 | 08/16/2001 | William L. Jones | 002.0221.01 | 3670 |

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|---|
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| ART UNIT | PAPER NUMBER |
|---|---|
| 2137 | |

DATE MAILED: 02/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on *12 December 2005*.

2a) ☒ This action is **FINAL.**      2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) *See Continuation Sheet* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *See Continuation Sheet* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a) ☐ All    b) ☐ Some * c) ☐ None of:

   1. ☐ Certified copies of the priority documents have been received.

   2. ☐ Certified copies of the priority documents have been received in Application No. _____.

   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date *12192005; 12122005*.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☒ Other: *10112005*.

Continuation of Disposition of Claims: Claims pending in the application are 1,3,5-7,9,10,12,14-16,18-20,22-24,26,28-30,32,33,36,37,39,42,43,45,46,50,51,55-57,59,61,63,65,66,69,72 and 74-78.

Continuation of Disposition of Claims: Claims rejected are 1,3,5-7,9,10,12,14-16,18-20,22-24,26,28-30,32,33,36,37,39,42,43,45,46,50,51,55-57,59,61,63,65,66,69,72 and 74-78.

## DETAILED ACTION

Claims 1,3,5-7,9-10,12,14-16,18-20,22-24,26,28-30,32-33,36-37,39,42-43,45-46,50-51,55-

57,59,61,63,65-66,69,72, and 74-78 have been considered.

5                          *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

>       (a) A patent may not be obtained though the invention is not identically disclosed or described as
>       set forth in section 102 of this title, if the differences between the subject matter sought to be
10      patented and the prior art are such that the subject matter as a whole would have been obvious
>       at the time the invention was made to a person having ordinary skill in the art to which said
>       subject matter pertains. Patentability shall not be negatived by the manner in which the invention
>       was made.

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Claims 1,3,5-7,9-10,12,14-16,18-20,22-24,26,28-30,32-33,36-37,39,42-43,45-46,50-51,55-

57,59,61,63,65-66,69,72, and 74-77 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Steinberg, U.S. Patent No. 6,587,949, in view of Matsushita, European Patent Application No.

00309498.4, in further view of Friedman, U.S. Patent No. 5,499,294.

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As per claims 1,2,10,11,20-21,26-27,33-34,39-40,46,50-51,57,61,66,69, and 74-77, the applicant

describes a system with the following limitations which are met by Steinberg in view of Matsushita in

further view of Friedman:

a) recording logic intercepting a substantially continuous video signal representing video content

25   in the process of being recorded on a transportable storage medium (Steinberg: Col 2, lines 22-34);

b) a frame buffer dividing the intercepted substantially continuous video signal into individual

frames during recording, each individual frame storing a fixed amount of data in digital form, and

combining decrypted frames into a substantially continuous video signal during playback (Matsushita: Col

3, lines 25-52);

    c) a processor encrypting each individual frame into encrypted video content using an encryption cryptographic key and storing the encrypted frames during recording and retrieving the encrypted frames and decrypting each encrypted frame using a decryption cryptographic key during playback (Matshushita: Col 3, lines 25-52; Steinberg: Col 4, lines 4-11);

5    d) reading logic outputting the substantially continuous video signal as video content in the process of being played from the transportable storage medium (Matsushita: Col 3, lines 25-52);

    e) a removable storage medium storing at least one of the encryption cryptographic key and the decryption cryptographic key, where the removable storage medium is removable with respect to the transportable storage medium (Steinberg: Col 4, lines 4-11);

10    f) an authentication module generating a fixed-length original cryptographic hash from at least one such individual frame, encrypting the original cryptographic hash using an encryption cryptographic key, storing the encrypted original cryptographic hash as a digital signature on a transportable storage medium, retrieving the digital signature from the transportable storage medium, decrypting the encrypted original cryptographic hash using a decryption cryptographic key, generating a verification fixed-length

15    cryptographic hash from at least one such individual frame, and comparing the verification cryptographic hash and the original cryptographic hash (Friedman: Col 4, line 63 to Col 5, line 14; Col 10, lines 8-15);

    g) A validation module validating the decryption cryptographic key against user-provided credentials prior to decrypting the encrypted frames (Steinberg: Col 5, lines 52-57);

    h) Wherein the removable storage medium includes memory that is coupled to a standardized

20    connector which enables utilization of at least one of a plurality of encryption cryptographic keys and a plurality of decryption cryptographic keys (Steinberg: Col 3, lines 59-61; Col 4, lines 4-11);

    Steinberg discloses a cryptographic system for legacy systems in which a transportable storage medium, such as a memory card, is inserted into a video recorder. When the video recorder sends video data to the memory card for storage, the memory card intercepts the data and performs authentication

25    and encryption on the data before it is stored. Steinberg also discloses the use of a removable storage medium (16 of Fig 1), which can be any system capable of receiving data. After recording takes place, the transportable storage medium is taken to the removable storage medium and the two devices are

connected through a cord (Col 3, lines 59-61). The two devices which are connected together by a cord

are removable with respect to each other. Thus, item 16 of Fig 1 is removable with respect to the

transportable storage medium, item 10 of Fig 1. Also, the removable storage medium stores a

cryptographic key for use in decrypting the encrypted content. (Col 6, lines 47-48; Col 6, lines 58-59).

5         Steinberg does not disclose that data is divided into frames and encrypted frame by frame. This

particular encryption technique is disclosed by Matsushita. It would have been obvious to one of ordinary

skill in the art at the time the invention was filed to combine the ideas of Matsushita with those of

Steinberg because doing so allows the data to be encrypted in an organized manner in accordance with

the common style of processing video data in frames.

10        Steinberg in view of Matsushita do not disclose the use of computing a hash as authentication

data from at least one frame. Friedman discloses a similar process whereby hashes are made on

individual frames. It would have been obvious to one of ordinary skill in the art at the time the invention

was filed to combine the ideas of Friedman with those of Steinberg and have a hash computed on an

individual frame because computing a hash on the authentication data provides a means to verify the

15       integrity of the framed data.


        As per claims 3,5-7,12,14-16,22-24,28-30,36-37,42-43,55,59, and 63, the applicant describes the

method of claim 2 (etc), which is met by Steinberg in view of Matsushita in further view of Friedman, with

the following limitation which is met by Friedman:

20        Further comprising an asymmetric cryptographic key pair comprising a private key corresponding

to the encryption cryptographic key and a public key corresponding to the encryption decryption key

(Friedman: Col 2, lines 2-59);

        The use of both symmetric and asymmetric cryptography is disclosed by Friedman.


25        As per claims 9 and 18, the applicant describes the system of claim 1, with the following limitation

which is also met by Steinberg:

A set of cryptographic instructions stored on the removable storage medium and employing at least one of the encryption cryptographic key and the decryption cryptographic key (Col 4, lines 4-11).

As per claims 19,32,45,56,65, and 72, the applicant describes the method according to claim 10 (etc), which is met by Steinberg in view of Matsushita in further view of Friedman, with the following limitation which is met by Steinberg:

A computer-readable storage medium holding code (Steinberg: Col 2, lines 3-7).

Claim 78 is rejected under 35 U.S.C. 103(a) as being unpatentable over Steinberg in view of Matsushita in further view of Friedman in further view of Yuen, U.S. Patent No. 5,621,579.

As per claim 78, the applicant describes the system of claim 1, which is met by Steinberg in view of Matsushita in further view of Friedman, with the following limitation which is met by Yuen:

Wherein the removable storage medium is removably coupled to a video tape cassette (Yuen: Col 5, lines 11-14).

Steinberg in view of Matsushita discloses all the limitations of claim 1. However, Steinberg in view of Matsushita fails to disclose that the transportable storage medium, which is coupled to the removable storage medium, is specifically a video tape cassette.

Yuen discloses the commonly known idea that a video tape cassette can be used to store information recorded from a video recorder. It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Yuen with those of Steinberg in view of Matsushita and incorporate the use of a video tape cassette as the transportable storage medium because a video tape cassette is a common storage medium for storing data from a video recorder.

### Response to Arguments

Applicant's arguments, see Remarks filed 12/12/05, with respect to independent claims 1 have been fully considered but they are not persuasive. Applicant presents the following three arguments:

1) Limitation e) is not met because a PCMCIA card does not meet applicant's claimed removable storage medium

2) Limitation g) is not met because there is no validation of a decryption key against user-provided credentials

5     3) Limitation h) is not met because a PCMCIA card does not meet applicant's claimed removable storage medium


Examiner respectfully disagrees with applicant's arguments. Regarding argument 1), applicant has argued that a PCMCIA card does not meet applicant's claimed removable storage medium.

10    Examiner respectfully submits that this argument is moot in light of the fact that the Examiner did not rely on the PCMCIA card to teach the removable storage medium as claimed. Examiner has relied on a computing system (16 of Fig 1) as the removable storage medium. After recording takes place on a transportable storage medium (10 of Fig 1), the transportable storage medium may be taken to the removable storage medium (16 of Fig 1) and the two devices may be connected through a cable (Col 3,

15    lines 59-61). Two devices which are connected via detachable cable in such a fashion are removable with respect to each other. Encrypted data may then be sent from the transportable storage medium to the removable storage medium (Col 4, lines 4-11). Further, a user may have to enter a key (or a password and a key) to the removable storage medium in order to decrypt data (Col 5, lines 52-57). Thus, a user may enter a decryption key which is stored on the removable storage medium and used to

20    decrypt the encrypted data sent from the transportable storage medium.

Regarding argument 2), applicant has argued that there is no validation of a decryption key against user-provided credentials. Examiner respectfully disagrees. Steinberg discloses that, in order for decryption to ensue, a user may have to validly present **both** a decryption key and user-provided credentials (password) (Col 5, lines 55-57). Thus, Steinberg discloses validating a decryption key against

25    user-provided credentials (a password) before decrypting the encrypted frames. As a sidenote, Examiner submits that it appears the user-provided credentials, described in applicant's Specification, are specifically a password (Specification, page 9, lines 13-17; page 10, lines 24-25).

Regarding argument 3), applicant appears to be arguing limitation h) and that a PCMCIA card

does not meet applicant's claimed removable storage medium. Again, Examiner respectfully submits that

this argument is moot in light of the fact that the Examiner did not rely on the PCMCIA card to teach

applicant's claimed removable storage medium. The rejection, as applied, relies on a computing system

5       (16 of Fig 1) to teach applicant's claimed removable storage medium. A transportable storage medium is

coupled to a removable storage medium through a cable and able to transfer encrypted data to the

memory of the removable storage medium.


### *Conclusion*

10       **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth

in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from

the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date

of this final action and the advisory action is not mailed until after the end of the THREE-MONTH

15       shortened statutory period, then the shortened statutory period will expire on the date the advisory action

is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX

MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should

20       be directed to Kevin Schubert whose telephone number is (571) 272-4239. The examiner can normally

be reached on M-F 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

Emmanuel Moise can be reached on (571) 272-3865. The fax phone number for the organization where

this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application

Information Retrieval (PAIR) system.  Status information for published applications may be obtained from

either Private PAIR or Public PAIR.  Status information for unpublished applications is available through

Private PAIR only.  For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

5    you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC)

at 866-217-9197 (toll-free).


KS

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